



**(43) International Publication Date**  
**3 November 2005 (03.11.2005)**

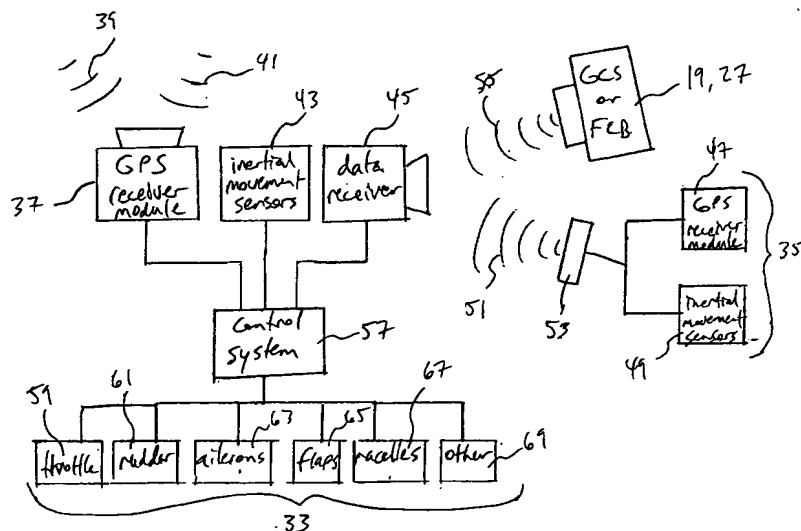
## PCT

**(10) International Publication Number**  
**WO 2005/103939 A1**

- |   |   |
|---|---|
| <p>(51) <b>International Patent Classification<sup>7</sup>:</b> <b>G06F 17/00</b>,<br/>B64C 13/20</p> <p>(21) <b>International Application Number:</b><br/>PCT/US2004/009080</p> <p>(22) <b>International Filing Date:</b> 25 March 2004 (25.03.2004)</p> <p>(25) <b>Filing Language:</b> English</p> <p>(26) <b>Publication Language:</b> English</p> <p>(71) <b>Applicant (for all designated States except US):</b> <b>BELL HELICOPTER TEXTRON INC</b> [US/US]; P.O. Box 482, Fort Worth, TX 76101 (US).</p> <p>(72) <b>Inventors; and</b></p> <p>(75) <b>Inventors/Applicants (for US only):</b> <b>BULTA, Kenneth, E.</b> [US/US]; 1500 Woodridge Circle, Euless, TX 76040 (US). <b>HARRIS, James, E.</b> [US/US]; 2707 Whisperwood Trail, Dalworthington Gardens, TX 76016 (US). <b>HONZA, Bryan, P.</b> [US/US]; 4126 Harvestwood Drive, Grapevine, TX 76051 (US). <b>EPP, Jeffrey, W.</b> [US/US]; 309 Blue Quail</p> | <p>Court, Bedford, TX 76021 (US). <b>SCHULTE, Kynn, J.</b> [US/US]; 1808 Kingsborough Drive, Arlington, TX 76015 (US).</p> <p>(74) <b>Agent:</b> <b>WALTON, James, E.</b>; Law Offices of James E. Walton, P.L.L.C., 1169 N. Burleson Boulevard, Suite 107-328, Burleson, TX 76028 (US).</p> <p>(81) <b>Designated States (unless otherwise indicated, for every kind of national protection available):</b> AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.</p> <p>(84) <b>Designated States (unless otherwise indicated, for every kind of regional protection available):</b> ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,</p> |
|---|---|

*[Continued on next page]*

- (54) Title:** CONTROL SYSTEM FOR VEHICLES



**(57) Abstract:** A system for controlling flight of an aircraft has sensors (37, 43), a receiver (45), and a digital control system (57), all of which are carried aboard the aircraft. The sensors (37, 43) determine the position of the aircraft relative to the earth and the inertial movement of the aircraft. The receiver (45) receives transmitted data (51, 55) communicating the position and movement of a reference vehicle relative to the earth. The control system (57) calculates the position and velocity of the aircraft relative to the reference vehicle using the data from the sensors (37, 43) and the receiver (45) and then commands flight control devices (33) on the aircraft for maneuvering the aircraft in a manner that maintains a selected position and/or velocity relative to the reference vehicle. The system allows use of a graphical or tactile user interfaces.



GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,  
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
ML, MR, NE, SN, TD, TG).

**Published:**

— with international search report

**Declaration under Rule 4.17:**

— of inventorship (Rule 4.17(iv)) for US only

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*